

Abstract Submitted  
for the DNP06 Meeting of  
The American Physical Society

**Measurement of the  $^{235m}\text{U}$  Production Cross Section Using a Critical Assembly\*** ROBERT MACRI, Lawrence Livermore National Laboratory, NICOLAS AUTHIER, CEA, JOHN BECKER, Lawrence Livermore National Laboratory, GILBERT BELIER, CEA, EVELYN BOND, TODD BREDEWEG, S. GLOVER, Los Alamos National Laboratory, VINCENT MEOT, CEA, ROBERT RUNDBERG, DAVID VIEIRA, JERRY WILHELMY, Los Alamos National Laboratory — Measurements of the creation and destruction cross sections for actinide nuclei constitute an important experimental effort in support of Stockpile Stewardship. In this talk I will give a progress report on the effort to measure the production cross section of the  $^{235m}\text{U}$  isomer integrated over a fission neutron spectrum. This ongoing experiment is fielded at CEA in Valduc, France, taking advantage of the CALIBAN critical assembly. This effort is performed in collaboration with LANL, LLNL, Bruyeres le Chatel, and Valduc staff. This experiment utilizes a technique to measure internal conversion electrons from the  $^{235m}\text{U}$  isomer with the French BIII detector (Bruyeres le Chatel), and involves a substantial chemistry effort (LANL) to prepare targets for irradiation and counting, as well as to remove fission fragments after irradiation. Experimental techniques will be discussed and preliminary data presented. \*Work performed under the auspices of the U.S. Department of Energy by Los Alamos National Laboratory (W-7405-ENG-36) and Lawrence Livermore National Laboratory (W-7405-ENG-48), and CEA-DAM under CEA-DAM NNSA-DOE agreement.

Robert Macri  
Lawrence Livermore National Laboratory

Date submitted: 05 Jul 2006

Electronic form version 1.4